

FAQ0028
Frequently Asked Questions

Instructions on ADC configuration

Questions:[Instructions on ADC configuration](#)**Answer:**

Take AT32F403A as an example:

```
adc_base_config_type adc_base_struct;
crm_periph_clock_enable(CRM_ADC1_PERIPH_CLOCK, TRUE);
crm_adc_clock_div_set(CRM_ADC_DIV_6);
//ADCCLK frequency division factor. Do not exceed the ADCCLK requirements defined in the reference
//manual. For example, for AT32F403A, the maximum ADCCLK is 28M.

/* select combine mode */
adc_combine_mode_select(ADC_INDEPENDENT_MODE);
// For non-dual ADC mode, this location should be set as independent mode.
adc_base_default_para_init(&adc_base_struct);
adc_base_struct.sequence_mode = TRUE;
// After enable, all of the configured ordinary group of channels are converted in sequence
adc_base_struct.repeat_mode = TRUE;
// After enable, software triggers circular sampling
adc_base_struct.data_align = ADC_RIGHT_ALIGNMENT;
adc_base_struct.ordinary_channel_length = 3;
adc_base_config(ADC1, &adc_base_struct);
adc_ordinary_channel_set(ADC1, ADC_CHANNEL_4, 1, ADC_SAMPLETIME_239_5);
adc_ordinary_channel_set(ADC1, ADC_CHANNEL_5, 2, ADC_SAMPLETIME_239_5);
adc_ordinary_channel_set(ADC1, ADC_CHANNEL_6, 3, ADC_SAMPLETIME_239_5);
adc_ordinary_conversion_trigger_set(ADC1, ADC12_ORDINARY_TRIG_SOFTWARE, TRUE);
//Select ordinary group trigger source, and software trigger parameter is
//ADC12_ORDINARY_TRIG_SOFTWARE
adc_dma_mode_enable(ADC1, TRUE);

adc_preempt_channel_length_set(ADC1, 3);
adc_preempt_channel_set(ADC1, ADC_CHANNEL_7, 1, ADC_SAMPLETIME_239_5);
adc_preempt_channel_set(ADC1, ADC_CHANNEL_8, 2, ADC_SAMPLETIME_239_5);
adc_preempt_channel_set(ADC1, ADC_CHANNEL_9, 3, ADC_SAMPLETIME_239_5);
```

```
adc_preempt_conversion_trigger_set(ADC1, ADC12_PREEMPT_TRIG_TMR1CH4, TRUE);  
//Select preempted group trigger source, and TMR1 CH4 trigger parameter is  
ADC12_PREEMPT_TRIG_TMR1CH4  
adc_preempt_auto_mode_enable(ADC1, TRUE);  
adc_interrupt_enable(ADC1, ADC_PCCE_INT, TRUE);  
  
adc_enable(ADC1, TRUE);  
adc_calibration_init(ADC1);  
while(adc_calibration_init_status_get(ADC1));  
adc_calibration_start(ADC1);  
while(adc_calibration_status_get(ADC1));
```

Type: MCU

Applicable products: AT32 MCU family

Main function: ADC

Minor function: None

Document revision history

Date	Revision	Changes
2022.2.16	2.0.0	Initial release

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